

REMARKS / ARGUMENTS

The claims are 2-21. Claim 1 has been canceled in favor of new claim 21 to improve its form. Accordingly, claims 2-3 and 10-20, which previously depended on claim 1, have been amended to depend on new claim 21. These claims and claims 4-9 have also been amended to improve their form. Support for the claims may be found, *inter alia*, in the original claims. Reconsideration is expressly requested.

Claims 1-20 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-20 of co-pending Application No. 11/883,497 application in view of *Hozumi et al.* U.S. Patent No. 4,249,062. Essentially the Examiner's position was that the claims of the '497 application and claims 1-20 were not patentably distinct from each other because claims 1-20 are merely broader in scope than claims 1-20 of the '497 application. In addition, the Examiner took the position that claims 1-20 of

the '497 co-pending application disclose all the limitations of claims 1-20, except for specifying that the mechanical adjustment "determines the position of the welding wire" and the process being carried out during the welding process as the wire is being used as the sensor, which were said to be within the skill in the art as shown by *Hozumi et al.*

In response, without conceding the propriety of the Examiner's rejection and in order to expedite prosecution, Applicant is submitting herewith a Terminal Disclaimer, thereby obviating the double-patenting rejection.

Claims 1-20 were also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the reasons set forth on pages 5-6 of the Office Action. In response, Applicant has rewritten claim 1 as new claim 21, and has amended claims 2-20 to improve their form, which it is respectfully submitted overcomes the Examiner's rejection under 35 U.S.C. 112, second paragraph. In this connection, it is respectfully submitted that the electric

arc in claims 4, 16 and 17 has sufficient antecedent basis as an electric arc is recited in new claim 21.

Claims 1, 2, 10, 11 and 18-20 were rejected under 35 U.S.C. 102(b) as being anticipated by *Hozumi et al.* Claims 1-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Nishikawa et al. JP 11-058012* in view of *Hozumi et al.* Claims 1-20 were also rejected under 35 U.S.C. 103(a) as being unpatentable over *Mita et al. EP 774317* discussed in the specification (which the Examiner called "Applicant Admitted Prior Art") in view of *Hozumi et al.*

This rejection is respectfully traversed.

As set forth in new claim 21, Applicant's invention provides a method for controlling a welding process using a melting welding wire including the steps of igniting an electric arc, subsequently conducting welding, with the welding being adjusted on the basis of several different welding parameters and

controlled by at least one of a control device and a welding current source, and carrying out at least one mechanical adjustment process during the welding to determine the position of the welding wire using the welding wire as a sensor. In this way, Applicant's invention provides a method for controlling a welding process using a melting welding wire in which the position of the welding wire or end of the welding wire relative to the workpiece is mechanically determined, thus providing an accurate length regulation of the electric arc. The mechanical determination of the position largely prevents the adjustment procedure from being influenced by the welding process so that a very high accuracy is obtained.

Hozumi et al. shows an apparatus and a method for sensing welding point in automatic welding apparatus, where the welding torch is moved to trace the welding line of the workpiece. The so-called stick-out length, that is the length of the welding wire projecting out of the contact nozzle of the welding torch, is constant. Contrary to *Hozumi et al.*, Applicant's method as

recited in new claim 21 allows determination of the position of the welding wire relative to the workpiece without the movement of the welding torch. Therefore, the position of the welding wire with respect to the workpiece can be determined without the necessity to move the welding torch, which it is respectfully submitted is not possible from *Hozumi et al.*

As stated in Applicant's previous response filed June 24, 2008, *Nishikawa et al.* yields only a "relative" result, which does not allow determination of the exact position of the end of the welding wire relative to the workpiece. The method according to *Nishikawa et al.* is based merely on the indirect measurement of the stick-out length via electrical parameters. The mechanical adjustment process carried out during the welding process to determine the position of the welding wire using the welding wire as a sensor as recited in Applicant's claim 21 is nowhere disclosed or suggested by *Nishikawa et al.*.

Mita et al. EP 774317 is discussed in page 1 of Applicant's disclosure. In *Mita et al.*, the position or distance of the end of the welding wire from the workpiece cannot be precisely determined because of the most diverse influences encountered in the welding process. Accordingly, it is respectfully submitted that new claim 21 together with claims 2-20, which depend directly or indirectly thereon, are patentable over the cited references.

As previously mentioned in Applicant's June 24, 2008 response, the European Patent Office has granted a European Patent on the corresponding European Patent Application with a set of claims as originally filed with the foregoing international patent application. A copy of the European Patent EP 1 677 941 B1 with the English claims is attached for the Examiner's reference.

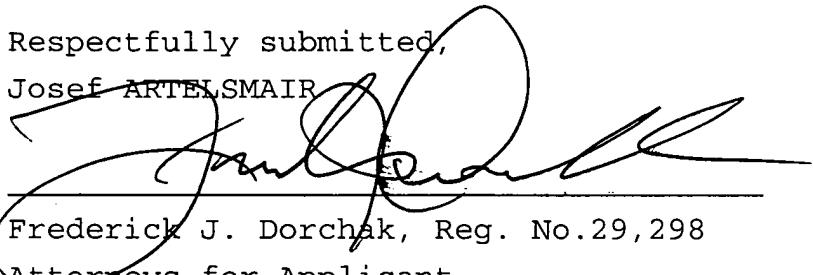
In summary, claims 2-20 have been amended, claim 1 has been canceled and claim 21 has been added. In addition, a Terminal

Disclaimer with a check in the amount of \$140.00 in payment of the Terminal Disclaimer fee is enclosed. In view of the foregoing, it is respectfully requested that the claims be allowed and that this case be passed to issue.

Applicant also submits herewith a Supplemental Information Disclosure Statement.

Respectfully submitted,

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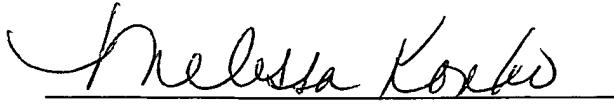
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Enclosures: EP 1 677 941 B1

Terminal Disclaimer (check in the amount of \$140.00)
Supplemental Information Disclosure Statement

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 31, 2008.


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